



**OFFICE OF SURFACE MINING
RECLAMATION AND ENFORCEMENT**

**Annual Evaluation Summary Report
For the
WYOMING
Abandoned Mine Land Reclamation Program
Evaluation Year 2011**

September 15, 2011



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*Cover Photo-
Shepherd wagon and camp situated adjacent to the Junction Mine.*

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I. General

A. Introduction

The Surface Mining Control and Reclamation Act of 1977 (SMCRA) created the Office of Surface Mining Reclamation and Enforcement (OSM) in the Department of the Interior to oversee regulation of coal exploration, surface coal mining and reclamation operations, and reclamation of lands adversely affected by past mining practices. SMCRA provides that, if certain conditions are met, a State may assume primary authority for reclamation of abandoned mine lands (AML) within its borders. Once a State has obtained such approval, OSM has the responsibility to make investigations, evaluations, and inspections necessary to determine whether that State's abandoned mine land program is being administered in accordance with approved program provisions. In December, 1981, the Secretary of the Department of Interior approved Wyoming's Abandoned Mine Land Reclamation Plan under Title IV of SMCRA. As a result of this approval, the State of Wyoming through the Department of Environmental Quality (DEQ) has exclusive responsibility and authority to operate the Abandoned Mine Reclamation Program. Wyoming's approved State Reclamation Plan (as amended in 1993) set forth authority, policies, and procedures under which Wyoming operates its program. Within the DEQ, the Abandoned Mine Lands Division is responsible for implementing this plan. On March 5, 1984, OSM announced State certification in *Federal Register* notice 49 FR 8091 noting that Wyoming has completed reclamation of all high priority coal hazards, and requested public comment. In *Federal Register* notice 49 FR 22139 of May 25, 1984, OSM approved certification.

Evaluation of the State reclamation program is conducted by the Casper Field Office (CFO) of OSM. The Evaluation Year (EY) 2011 consisted of a twelve month period beginning on July 1, 2010 and ending on June 30, 2011. OSM's evaluation methods are based upon OSM Directive AML-22 (Evaluation of State and Tribal Abandoned Mine Lands Programs) and a Performance Agreement (PA) dated December, 2009 between Wyoming Abandoned Mine Lands Program (WYAML) and OSM. This agreement established a commitment between WYAML and OSM to identify topics for review, identify methodologies for enhancement and evaluation of performance reviews, and assist in the preparation of the final report. Assessment of WYAML performance includes reviews of selected topics such as fiscal and administrative controls, progress in coal mine reclamation, overall reclamation success, public interaction and outreach, and integration with the Abandoned Mine Land Inventory System (AMLIS) database. Reclamation site visits were conducted jointly by WYAML and OSM staff.

The following acronyms are used in this report:

AML	Abandoned Mine Land
AMLIS	Abandoned Mine Land Inventory System
ATP	Authorization to Proceed
CFO	Casper Field Office
CIL	Certified In Lieu funds

DEQ	Department of Environmental Quality
EY	Evaluation Year
GPRA	Government Performance Results Act
OSM	Office of Surface Mining Reclamation and Enforcement
PA	Performance Agreement
PAD	Problem Area Description
PBRF	Prior Balance Replacement Funds
SMCRA	Surface Mining Control and Reclamation Act
UW	University of Wyoming
WYAML	Wyoming Abandoned Mine Land Program
WYGS	Wyoming Geological Survey

B. Program Administration

Overall, the State of Wyoming administers WYAML in a manner reflecting high quality professionalism and performance, and excellent communication and cooperation between consulting agencies and other interested parties. The CFO and WYAML regularly consult and interact with one another. WYAML maintains a program staff of 13.15 full time employees distributed between four State offices. The primary administrative office is located in the Capitol complex in Cheyenne with additional project managers and administrators located in Casper, Lander and Sheridan. WYAML staff conducts initial site investigations, pre-construction environmental analysis, agency consultations and compliances, and reclamation project administration. In addition, WYAML contracts the following services to enhance in-house expertise and capabilities:

1. Reclamation engineering, design and construction inspection;
2. Monitoring and certification of reclaimed properties;
3. Cultural resource identification, evaluations and reporting;
4. Land surface and mineral owner access and reclamation consent;
5. Resource reviews and reports (threatened and endangered plants and animals, wetlands delineation, paleontological resources, and migratory birds);
6. Regulatory reviews, compliances and permits; and,
7. Statewide inventory of all mine sites, coal and non-coal.

WYAML project officers provide project conception, development, and management. Contracted engineering and design management firms assist with evaluation, design and construction. The following major types of problems are commonly addressed in reclamation projects:

1. Closure of shaft, adit and topographic depressions;
2. Closure of large open pits;
3. Abatement of subsidences;
4. Reduction and elimination of high-walls; and,
5. Extinguishment of underground coal mine fires.

The process of abandoned mine investigation and reclamation is a lengthy and arduous

task, integrating WYAML staff and contracted consultants at key mileposts. WYAML staff investigate and inventory abandoned mine sites, enter properties into AMLIS and prioritize sites according to criteria established in SMCRA. Abandoned mine sites are then selected for reclamation design around October 1 of each year. At that time, consulting firms are asked to submit a Statement of Interest for further investigation of selected AML sites. A WYAML selection committee selects the best qualified firms for each project based on reviews of submittals and interviews with potential contractors. Contractors are selected by concurrence between the DEQ director, the WYAML administrator and the individual project manager. WYAML negotiates the contract based on the firm's written proposal.

Preparing a mine site for reclamation can be a lengthy process. Completion of site investigations, landowner consent, and regulatory compliances can take several months to a year. Then, due to State procurement laws and WYAML selection policies, lag time between selecting a site for reclamation and execution of a contract with a design firm can be up to 12 months. Construction bidding, mobilization and construction can add another 12 to 18 months. If it is necessary for WYAML to secure co-operative agreements for mine reclamation with other federal agencies such as the Bureau of Land Management or United States Forest Service, development of agreements and/or satisfaction of agency requirements for reclamation on their administrative lands may require additional time of up to several years resulting in substantial project delay.

Design and pre-construction work consists of obtaining land and mineral owner consents, eligibility determinations, site surveying and mapping, and preparation of a Report of Investigation. This report identifies site conditions, hazards and reclamation alternatives. Following solicitation of public comment through publication of the proposed reclamation action and public meeting if requested, WYAML selects a reclamation alternative and the consulting engineer prepares the final reclamation design. The reclamation project is advertised for bid and a site visit/bid tour is provided for all prospective contractors. Interested contractors then submit bids on the project based on designs provided by WYAML.

Prior to initiating any construction work on coal reclamation projects, WYAML submits a documentation package to OSM with a request for an Authorization to Proceed (ATP). This package includes 1) a complete Environmental Assessment or Categorical Exclusion, 2) a project eligibility determination pursuant to 30 CFR 874.12 prepared by the Wyoming Attorney General, 3) a threatened and endangered plant and animal species survey, and consultation results with the U.S. Fish and Wildlife Service, 4) consultation results with the State Historic Preservation Office, 5) site maps, photographs, and 6) AMLIS Problem Area Description (PAD) reports. If acceptable and complete, CFO issues an ATP pursuant to section 4-160-50D.3 of the 2011 OSM Federal Assistance Manual to WYAML prior to reclamation or construction of each project. ATP's are not issued to certified States for non-coal construction projects. Once the project is put out to bid and a contractor selected, the contractor is reviewed through the Applicant Violator System to ensure that he is not in arrears on Federal contracts, or has foreclosed on a permitted mining operation anywhere in the country. Once approved, then WYAML can

issue the notice-to-proceed to the contractor to begin construction.

Currently there is not an AML emergency program in Wyoming. When an emergency occurs, both WYAML and OSM work co-operatively to abate the problem. WYAML has 25 design, engineering and construction contractors under state-wide contract that can be mobilized on short notice to perform inspection, design, and construction remediation on hazards needing urgent attention. In most instances, WYAML has construction activities in the area of the hazard and can mobilize their existing contractors on a moment's notice. WYAML also contracts directly with firms qualified for cultural resource and threatened/endangered species assessments so National Environmental Policy Act, National Historic Preservation Act, and National Threatened and Endangered Species Act compliances may be secured without delay.

II. Noteworthy Accomplishments

A. Overall Performance

Since the Program's inception, the WYAML has reclaimed over 1051 abandoned mine sites encompassing over 36,136 Government Performance Result Act (GPRA) acre-equivalents. Approximately \$151.6 million has been spent reclaiming coal mine hazards on 4,662 GPRA acres. The majority of this money was spent on grouting underground subsidence, extinguishing coal fires, and surface and underground mine reclamation. WYAML has also spent \$346.1 million reclaiming abandoned industrial mineral mine hazards on 31,474 GPRA acres. Details of past achievements are found in Table 1 (next page). Significant hazards on both coal and non-coal sites remain to be mitigated and future funding will be required.

B. Arbor Day at the Kleenburn Recreation Area

An Arbor Day Tree Planting event was planned for the Kleenburn Park in Sheridan Wyoming for Friday, April 29, 2011. The event was being sponsored by the Wyoming Department of Environmental Quality, Abandoned Mine Lands Division and the Office of Surface Mining, Casper Field Office. Planned attendees included: staff from WYAML, staff from OSM-CFO and Western Region Director, the Honors Club and staff from Sheridan County Junior High School, a representative from Soil Conservation District, a representative from Wyoming Fish and Game Department and a representative from Sheridan County Recreation Department.

The plan was to host a group of 20 honors students from the local junior high school, have a series of presentations given to the students from the OSM Regional Director and staff from other cooperating public agencies, then proceed to plant 200 bare root trees and shrubs consisting of green ash, buffalo berry and chokecherry. Unfortunately, an unexpected spring blizzard hit the area at 7:30 in the morning bearing winds of 30 miles per hour and dropping up to 4 inches of snow at the planting site. Needless to say, the event was quickly cancelled. The bare root seedlings were planted later by AML staff.

TABLE 1. WYOMING ABANDONED MINE LAND RECLAMATION NEEDS AND ACCOMPLISHMENTS SINCE PROGRAM APPROVAL

Problem nature	Unit	Coal-related problems				Noncoal-related problems	
		Abatement status			Total	Abatement status	
		Unfunded	Funded	Completed		Unfunded & Funded	Completed
Priorities 1, 2 and 3 (Protection of public health, safety, and general welfare)							
Clogged streams	Miles	6.6	11.8	5.3	13.7	8.0	108.2
Clogged stream lands	Acres	59.3	131.0	133.3	323.6	12.2	1,620
Dangerous highwalls	Lin. Feet	23,755	2,839	24,648	51,242	40,750	561,132
Dangerous impoundments	Count	0	0	6	6	1	134
Dangerous piles & embankments	Acres	67.6	15.7	466.9	550.2	5.3	2,392.3
Gases: hazardous/explosive	Count	1	0	0	1	0	0
Gobs	Acres	27.3	8.1	18.4	53.8	50.7	19.5
Highwall	Feet	1,576	0	0	1,576	0	220
Hazardous Equip. & Facilities	Count	139	24	151	304	27	103
Haul Road	Acres	6.8	0	18.7	25.5	2.5	369.1
Hazardous Water Body	Count	3	3	0	6	61	416
Industrial/Residential Waste	Count	0	0	12.0	12.0	10.2	17.0
Mine Opening	Count	86	78	320	484	0	0
Portals	Count	83	65	370	518	86	305
Pits	Acres	13	0.1	733.2	746.1	581.6	6,527.6
Polluted Water: Agric. & Indust.	Acres	0.0	0.0	2.0	2.0	0	0
Subsidence	Acres	310.2	22.9	1,178.3	1,511.4	4.7	101.2
Spoil Area	Acres	1,021.3	41.6	985.1	2048	416.3	8,393.2
Surface Burning	Acres	0.2	0.0	117.7	17.9	0	0
Slump	Acres	332.3	6.4	223.6	568.3	0	4
Underground Mine Fire	Acres	174.3	0.0	74.22	248.52	0	0
Vertical Opening	Count	19	7	254	280	134	487
Note: All data in this table are taken from the Abandoned Mine Land Inventory System (AMLIS) 7/27/11. Mine openings, portals and vertical openings are combined under mine openings. Equipment/Facilities are combined with Hazardous Equipment and Facilities.							

C. Interactions with Other Agencies

One WYAML staff member serves on the Monuments and Markers Advisory Committee and the Mine Trails and Byways Commission for the Wyoming State Historic Preservation Office. The Monuments and Markers Advisory Committee reviews and approves all sign markers erected along the State's highways and interpretive areas. The Mine Trails and Byways commission, a sub-unit of the Monuments and Markers Advisory Committee, identifies historic mining areas in the State and designates a system of access and trails along historical routes of access.

WYAML regularly interacts with the Bureau of Land Management, the U.S. Forest Service, the U.S. Fish and Wildlife Service, the WY State Historic Preservation Office, the WY Department of Game and Fish, and the WY Department of State Lands in its development and preparation of environmental compliance documents. WYAML regularly works with the Bureau of Land Management to cooperatively remediate mine related problems on federally administered lands.

D. Conferences

WYAML staff attended several conferences during EY 2011. One staff member attended the "Restoration of Disturbed Sagebrush Steppes: Lessons from 35 Years of Research on Oil Shale Lands in the Piceance Basin Seminar" held in Fort Collins, Colorado on September 8-9, 2011.

The WYAML Administrator attended three conferences: the National Association of Abandoned Mine Land Programs Annual Meeting in Scranton Pennsylvania, 9/19-22/2010, the Inter-Mountain Coal Conference Mid-Year meetings in Charleston, South Carolina on 10/26-27/2010, and the National Association of Abandoned Mine Land Programs Winter Meetings in Orange Beach, Alabama on 2/21-23/2011.

E. Awards

In August of 2011, the WYAML was notified that the Kleenburn Mine Reclamation Project had won the 2011 Abandoned Mine Land Reclamation Award for the Western States Division. This award recognizes outstanding abandoned mine land reclamation in the western United States and showcases exemplary reclamation techniques. A panel of judges composed of directors of state reclamation programs and OSM managers voted to determine the winner.

OSM will profile the project's exemplary work in a short video presentation and present the award at a banquet held in conjunction with the National Association of Abandoned Mine Land Programs Association's annual conference.

III. Utilization of OSMRE Technological Assistance

A. National Technical Training Program (NTTP)

One WYAML staff member attended the NTTP AML Drilling and Grouting course offered in Fort Collins, Colorado on June 13-17, 2011.

B. Technical Innovation and Professional Services (TIPS)

There was no participation from WYAML staff in the TIPS training program in EY 2011.

C. Use of OSM Provided Equipment

WYAML borrowed both the thermal imaging viewer and the deep shaft viewing camera from OSM's Technology Transfer Program. WYAML intends to procure its own deep shaft viewing camera for extended use and multiple applications.

IV. Results of Performance Reviews

A. Performance Topics

Topic evaluations reports and individual project reports containing much more detail are on file in the 2011 Annual Evaluation files at the Casper Field Office. As identified in the 2010/2011 PA, the following topics were selected for evaluation: 1) AML Grant Fiscal and Administrative Controls, 2) WYAML's Progress in Reclamation of Outstanding Coal Problems, 3) Overall Reclamation Success, and 4) Public Outreach.

B. Grant and Fiscal Administrative Goals

1. Abatement Results of Increased AML Funding FY 2008 through FY 2011

In 2006, Congress approved the Surface Mining Control and Reclamation Act Amendments of 2006 as part of the Tax Relief and Health Care Act of 2006 (P.L. 109-432). Part of the amendments changed the funding amounts and funding calculations to both certified and uncertified States and Tribes. The Amendments created two new funding mechanisms for certified States and Tribes: Prior Balance Replacement Funds (PBRF) under Section 411(h)(1) and Certified in Lieu Funds (CIL) under Section 411(h)(2). PBRF are State Share moneys that were not distributed over past years and now will be distributed in their entirety over a seven year period starting in Federal FY 2008. PBRF may be used for those purposes the State legislature or Tribal council establishes, giving priority to addressing the impacts of mineral development (30 CFR § 872.31). CIL funds are State Share moneys that would be currently distributed from the Abandoned Mine Lands Fund, only these moneys for certified States and Tribes are now distributed from the general funds of the United States Treasury that are otherwise unappropriated. CIL funds are distributed to certified States and Tribes at 25% the first year, 50% the second year, 75% the third year and 100% the fourth year and thereafter

starting in Federal FY 2009 (30 CFR § 872.33). There are no limitations or restrictions on the use of CIL funds in the SMCRA Amendments of 2006 (30 CFR § 872.34).

Wyoming certified completion of all known P1 and P2 coal problems on March 5, 1984, with the Secretary of Interior concurring on May 25, 1984. Wyoming's funding is now exclusively derived from funds under Sections 411(h)(1) and 411(h)(2). In 2004, WYAML identified a large number of coal problems that had not been identified and treated prior to certification. In a letter dated February 4, 2008, Wyoming DEQ indicated that it will give priority to coal related problems per 30 CFR Part 875.13, and will spend \$30 million each year on coal reclamation until the coal work is complete. This commitment applies initially to Priority 1 and 2 coal problems, then to Priority 3 problems as the higher priority problems are completed.

The Wyoming legislature allocates moneys to the WYAML first from CIL funds and then from PBRF funds, sufficient to satisfy their \$30 million dollar commitment to current coal projects. Since CIL funds have increased in 25% increments starting in FY 2008, the coal commitment is now satisfied entirely from CIL funds. WYAML utilizes any excess funding over the \$30 million to address remaining hard rock mine issues.

The Wyoming legislature uses PBRF moneys to fund mineral resource and energy related research and demonstration projects through the university system, and address public facility needs in the geographic areas of past and current coal mining activities. Wyoming's PBRF moneys remain constant at \$82,700,759 until it expires in Federal Fiscal Year 2014. Wyoming's CIL moneys will reach 100% in Federal FY 2012 and remain at that level until FYs 2018 and 2019 when the percentages of 75%, 50% and 25% not paid out respectively in FYs 2008, 2009 and 2010 are recaptured and paid out in two equal payments in 2018 and 2019 in addition to the annual CIL payment. WYAML projects that it will complete the reclamation of all Priority 1, 2 and 3 coal problems by FY 2015, and moneys will then be directed to hard rock and other non-coal mining problems. WYAML presumes that coal maintenance, fires and subsidence events will continue to be ongoing occurrences. A summary of how Wyoming has distributed its PBRF and CIL moneys over the past 4 years is shown in Table 2.

Table 2. Distribution of Wyoming PBRF and CIL Funding from FY 2008 to FY 2011

Year	Moneys Available/ Requested	AML Expenditure	Legislative Discretion
2008	\$82,700,759 \$82,444,431	\$30,000,000 coal	\$52,444,431 3 UW Projects \$41,220,565 1 WYGS Project \$ 1,223,866 1 Public Facility \$10,000,000
2009	\$100,783,068		

	\$100,345,000	\$30,000,000 coal	\$70,345,000	
			6 Agency Projects	\$17,352,337
			1 WYGS Project	\$ 734,616
			6 UW Projects	\$52,213,047
			1 historical Project	\$ 45,000
2010	\$117,352,070			
	\$117,340,412	\$31,251,311 coal	\$82,689,101	
		\$ 3,400,000 non-coal	3 DEQ Projects	\$ 4,000,000
			1 WYGS Project	\$ 638,101
			5 UW Projects	\$78,051,000
2011	\$133,062,524			
	\$133,061,765	\$31,486,765 coal	\$82,700,000	
		\$18,875,000 non-coal	3 UW Projects	\$57,297,930
			1 Public Facility	\$25,402,070

2. Annual Consolidated AML Grant Review

Wyoming's total available 2011 consolidated grant is \$133,062,524 consisting of \$82,700,759 in PBRF moneys and \$50,361,765 in CIL moneys. Of this, \$82,700,000 in PBRF moneys was requested and committed by the Wyoming State Legislature. These moneys are granted from unallocated funds in the United States Treasury to the Wyoming State Legislature to fund research and mineral related projects of their choosing (Table 3). The WYAML requested \$50,361,765 to continue coal and non coal mine reclamation. A condition of the 2011 consolidated grant was that the State Legislature must dedicate a minimum of \$30,000,000 to the WYAML program for coal mine reclamation. This allocation was budgeted by WYAML as \$29,861,848 in non-water project costs and \$1,624,917 for program administration. Wyoming's administrative cost of \$1,624,917 is 3.22% of the WYAML program budget and includes staffing costs and support systems. Pre-construction contracted investigations, engineering design and construction costs are included under non-water project costs. No grant amendments have been requested for the 2011 Consolidated AML Grant. A total of \$759 of PBRF funds remains available in the 2011 Wyoming Consolidated Grant that has not been requested by the Wyoming Legislature.

Table 3. Distribution of Wyoming's AML Consolidated Grant Moneys

\$133,062,524	Total available 2011 Wyoming Consolidated Grant
\$133,061,765	Total Grant Moneys requested by Wyoming Legislature in 2010
\$ 759	Total 2010 balance remaining available to Wyoming Legislature
\$31,486,765	Amount Dedicated to Coal Mine Reclamation
< 1,624,917>	Non Emergency Administrative Costs

<29,861,848>	Project Costs, Non Water
\$18,875,000	Amount Dedicated to Non Coal Mine Reclamation
\$82,700,000	Prior Balance Replacement Moneys committed by Wyoming Legislature
< 25,402,070>	WY Water Development for Gillette Water Project
< 50,000,000>	Univ. WY. STEM Undergraduate Teaching Lab
< 1,050,000>	High Plains gasification – Advance Technology Center
< 6,247,930>	Energy Science graduate stipends and fellowships

C. Progress of Reclamation of Outstanding Coal Problems

In 1984, Wyoming certified to the Secretary of Interior that it had completed reclamation on all coal problems in the State. Since then, Wyoming has spent much of its AML funds on non-coal mining related problems. In 2004, Wyoming conducted a comprehensive statewide inventory of abandoned mine sites that identified a large number of high-priority (Priority 1 and 2) AML coal problems. These sites were estimated to have an overall reclamation value of \$118 million. In response to the 2006 amendments to SMCRA through the Tax Relief and Health Care Act, P.L. 109-432, Wyoming is in the process of inventorying low priority (Priority 3) AML coal problems.

In response to OSM concerns over the number of coal sites now in WYAML's inventory and requiring reclamation, Wyoming and OSM reached an agreement in 2008 in which Wyoming shifted its focus to reclamation of AML coal projects. Wyoming believes that committing \$30 million per year on coal reclamation was the maximum capability of its AML program and contracting infrastructure. Wyoming has all of its newly identified Priority 1 and 2 coal sites under contract for design; and has projected it can complete AML Priority 1 and 2 coal reclamation by Federal Fiscal Year 2014. OSM determined that this approach was reasonable and agreed to condition the Fiscal Year 2008, 2009, 2010 and 2011 AML grants with the requirement that \$30 million be used solely for coal reclamation. Wyoming has recently identified an additional \$60 million in Priority 3 coal problems. If AML funding for certified States continues, Wyoming's grants would likely be conditioned through 2013 to complete all remaining coal problems.

ATPs issued in Fiscal year 2008 largely reflect the completion of existing projects from 2006-07 investigations rather than the current commitment to coal issues. A comparison of ATPs issued during EY 2008, 2009, 2010 and 2011 shows that only 4 of 10 projects (40%) in 2008 were coal related versus 12 of 16 projects (75%) in 2009. In EY 2010, 15 of 16 projects (94%) and in 2011, 16 of 18 projects (89%) were coal related, demonstrating Wyoming's commitment to reclamation of their remaining coal problems (Tables 4 and 5). Non-Coal ATPs issued in EY 2009, 2010 and 2011 were either pre-effective date of the new regulations (January 13, 2009) or funded with pre-2009 moneys. No ATPs were issued for non-coal projects using funding from FY 2009 or later grants.

Table 4. ATPs issued in EY 2010.

Project Code	Name	Type	Date
AML 7F-6	Big Ditch Rehabilitation Project	(Coal)	07/15/09
AML 17J	Campbell County Mines	(Coal)	07/30/09
AML 17L	Muddy Gap and Old Spencer Mines	(Coal)	07/31/09
AML 7F6P2	Big Ditch Rehabilitation Project, Phase 2	(Coal)	08/25/09
AML 17H	Sweetwater Contract D	(Coal)	10/21/09
AML 17I	South Pass Shafts, Rutio Mine	(Non-Coal)	10/21/09
AML 17L	Albany and Carbon Co., BLM Group 1	(Coal)	12/15/09
AML 17L	Albany and Carbon Co., Private Sites	(Coal)	12/15/09
AML 17F	Converse and Natrona Co., Phase 2 Private	(Coal)	02/04/10
AML 17F	Converse and Natrona Co., Phase 2 Public	(Coal)	02/16/10
AML 17H	Sweetwater Co., South Rock Springs, Private	(Coal)	03/04/10
AML 17H	Uinta County Jakes Mine	(Coal)	04/07/10
AML RR	Elmo-Hanna 4 Subsidence Rapid Response	(Coal)	04/12/10
AML 17J	Sheridan County Custer Mine	(Coal)	05/04/10
AML 17L	Dana and Hanna Mine Group	(Coal)	06/16/10

Table 5. ATPs issued in EY 2011.

Project Code	Name	Type	Date
AML 17H	Sweetwater Co. Private Peacock 12 Mine	(Coal)	07/23/10
AML 17I	Medicine Bow Forest Coal Mines	(Coal)	09/16/10
AML 17I	Sherman Coal Mine	(Coal)	09/16/10
AML 17H	Sweetwater Co. Gunn Quealy Strip	(Coal)	09/27/10
AML 17J	Northern Sheridan Co. Small Coal Sites	(Coal)	09/27/10
AML 16H	Green Mtn. Crooks Gap, Fremont County	(Non coal)	09/27/10
AML 17B-11	Leefe Site, St. George	(Non-coal)	09/29/10
AML CE	Hudson No.2 Coal Mine	(Coal)	01/12/11
AML PF	Rock Springs – Bitter Creek Public Facility	(Coal)	02/14/11
AML 17H	Uinta Co. Evanston Area Phase 2	(Coal)	03/16/11
AML 17H	Uinta Co. Evanston BLM Beartown Mine	(Coal)	03/23/11
AML 17H	Sweetwater Co. North Rock Springs Mines	(Coal)	03/31/11
AML CE	Rock Springs Cedar Street Subsidence	(Coal)	03/31/11
AML 17H	Kemmerer Area Hams Fork Spoils Removal	(Coal)	03/31/11
AML 17M	Bighorn Basin BLM and BOR Mine Sites	(Coal)	04/21/11
AML 17M	Bighorn Basin BLM Worland FO Mines	(Coal)	04/22/11
AML 17H	Bighorn Basin Hot Springs Private Sites	(Coal)	05/12/11
AML 17L	Albany and Carbon Co. Rosebud Mine	(Coal)	05/19/11

D. Overall Reclamation Success

The overriding goal of the Abandoned Mine Reclamation Program is reclamation success of all priority coal problems. If a problem consistently reoccurs, then OSM can identify the problem and suggest ways to correct the procedures if administrative, or to correct reclamation construction if design related. The 2011 evaluation focused on reclamation success at earlier reclaimed sites and recent reclamation efforts during the evaluation period. The sample for the evaluation of reclamation success consisted of several Uinta and Sweetwater County area coal mines.

Weather and ground conditions were atrocious for the spring of the year 2011. Heavy rains followed a heavy snow winter. Snow pack was at 200% of normal and in some areas up to 240%. Spring rains were sufficiently abundant that most areas of the state were months ahead of their annual rainfall at the time, and some areas had reached their annual precipitation amounts by May of the year. The abundant moisture resulted in full streams and rivers before snowmelt, reservoirs and ponds that were very low or dry due to drought conditions were now filled to the brim, and lake waters were being released to protect the integrity of the reservoirs and prepared for runoff conditions. Streams and rivers reached flood stages; roads and bridges were washed out. Due to high water conditions, any thunderstorm or high temperature event would usher a barrage of flood warnings from the National Weather Service since there was just nowhere for the water to go. At local levels, the flooding made roadways impassable; either washed out or muddy beyond use. Playa lakes appeared in fields preventing their crossing and planting. General muddy conditions prevented most off road travel in a State where 99% of the roads are dirt two tracks without gravel or prepared surfacing. Many reclamation sites could not be visited and reclamation contracts could not be initiated due to inclement ground conditions and weather.

1. Project 17H – Uinta County Sites, Evanston Area Coal Mines: Junction and Lezeart Coal Mines.

The Junction and Lezeart Coal mines were two of six mines included in the 17H Uinta County Sites, Evanston Area Coal Mines. The Junction Mine Site (PAD No. WY001558SGA) is located within the SW1/4 NE1/4 and NW1/4 SE1/4 Section 8, Township 15 North Range 118 West, on private property approximately 13 miles east of Evanston. The site was an underground coal mine that currently contained one large subsidence hole and several smaller holes that open to the workings, three mine shafts, one portal, coal slump areas and slack piles. There was one stone foundation next to one of the portals. The reclamation plan was to excavate, probe and bulkhead/backfill the portals, shafts and subsidence areas, dispose of coal slack as back fill and re-vegetate the general area. An Authorization to Proceed was issued by the OSM-CFO on March 16, 2009. Work on the site was completed by October 16, 2009 at a cost of \$79,880.00. A total of 6.3 acres were re-vegetated. A thin veneer of coal slack was left over parts of the site as requested by the State Historic Preservation Office to mark the location as a coal mine site (Figure 1).



Figure 1. View of the Junction Mine site, looking west. Note slight veneer of coal slack left to mark the remains of the coal mine. Reclaimed areas are just above the rocky outcrops and lack the sagebrush so prevalent in the area. The site was seeded in the fall of 2009.



Figure 2. View of the Lezeart Mine site looking north. The reclaimed areas straddle the hill slope and base of the hill. Newly re-vegetated areas lack the sagebrush prevalent in the local area. Active fire burns were located on the slope immediately above the cluster of buildings and in the slack piles on the flat area to the left of the structures. The site was seeded in the fall of 2009.

The Lezeart Coal Mine (PAD No. WY001789SGA) is located within the SW1/4 and SW1/4 SE1/4 of Section 8, Township 15 North Range 118 West and NW1/4 NW1/4 and NE1/4 NW1/4 of Section 17, Township 15 North Range 118 West on private lands approximately 15 miles east of Evanston, Wyoming. The site was an underground coal mine containing 5 mine openings, subsidence features, piles and embankments, and an active mine fire with large open, venting cracks located very near a residence. Historical features on the sites include a stone foundation and a burned up wooden loadout structure. The reclamation plan was to 1) excavate, probe and bulkhead/backfill the mine portals, shafts and subsidence using coal slack as backfill, 2) open, flush and extinguish the coal burn areas, 3) remove dangerous piles and embankments and 4) revegetate the general area. An Authorization to Proceed was issued by the OSM-CFO on March 16, 2009 and work was completed at the sites by October 16, 2009 at a cost of \$52,538.00. A total of 8.5 acres were re-vegetated (Figure 2).

Two small farm ponds were created by the removal of topsoil for use at the Lezeart Mine site. Both ponds were completely full of water at the time of site review, and surrounded by riparian grasses creating excellent wildlife habitat.

2. AML Project 17H – Kemmerer Area Coal Reclamation: Cumberland Mine

The Cumberland Mine No. 1 (PAD No. WY001652SGA) lies down the center of Sections 30 and 31, Township 19 North, Range 16 on private property in Lincoln County, Wyoming. The site was an underground coal mine that exhibited two portals, five mine openings, five acres of slump areas and coal slack piles, 17 subsidences, dilapidated equipment and coal burn areas. The reclamation plan was to excavate, probe and bulkhead/backfill the portals, shafts and subsidence areas, dispose of coal slack as back fill, excavate and extinguish burning areas, and re-vegetate the general area. Before construction could be initiated, a local woman trespassing on the property and collecting artifacts fell through a burned crust up to her knees in warm ash. Without injury, she immediately notified the Bureau of Land Management of the hazards, who in turn informed her that she was trespassing on private property. The Bureau of Land Management then notified the WYAML of the incident. An Authorization to Proceed was issued by the OSM-CFO on March 16, 2009. Work on the site was completed by October 22, 2010 at a cost of \$343,395.00. A total of 27.9 acres were re-vegetated (Figure 3).



Figure 3. The Cumberland No. 1 Mine, view to the south, showing the burn area at the base of the hill and slack covered subsided areas in foreground.



Figure 4. The Cumberland No. 1 Mine and Stage Road, view to the south. Note the two-track Evanston to Cumberland Stage Road heading south through the site then veering southeast before reaching the burn area.

One issue that delayed the startup of construction was that the site area was bisected by the Evanston to Cumberland Stage Road, a historic trail (Figure 4). Although the trail was barely visible in this area and not considered contributing to the historic site's overall significance, it was considered a significant historic property on other nearby lands. As the two-track through the site would be used for construction access, it was considered proper to treat the two-track as potentially contributing to the significance and eligibility of the Evanston to Cumberland Stage Road to the National Register of Historic Places. A Memorandum of Agreement was completed between the WYAML, the State Historic Preservation Office and OSM-CFO to minimize any adverse effects to the trail. Key to the memorandum was the development of an interpretative sign discussing the trail through the area, and a stipulation calling for the renovation of the trail after use to maintain its original profile, appearance and vegetation.

E. Emergency Investigations and Abatement Efforts

Wyoming does not have an Emergency Program *per se*, nor does it rely on Federal assistance in the treatment of emergencies. Instead, the WYAML has an internal Rapid Response system where the WYAML has established a reserve fund designated for the treatment of emergency situations. WYAML treats the emergency as any other coal problem, preparing data sheets, PAD forms, National Environmental Policy Act documents – usually as a “Categorical Exclusion,” and conducts expedited consultation with U.S. Fish and Wildlife Service and the State Historic Preservation Office. WYAML has an engineering firm and a construction contractor available under a rapid response state wide contract to deal with emergencies. WYAML usually notifies CFO of the need for a rapid response action and once all critical data is received, the CFO proceeds to issue an ATP on the project as quickly as possible.

WYAML had three rapid response actions in Evaluation Year 2011. These projects include a coal portal closure at the Hudson No. 2, a coal subsidence closure at the Storm King Mine and an immediate fencing action at the Goodman Mine to demarcate a dangerous subsidence area on Bureau of Land Management grounds where all terrain vehicles were using the area. All of these projects were in the process of approval, but the situation justified expedited action in the interest of public health and safety.

F. Public Outreach

WYAML continues to solicit public comment and input on individual projects and the program at large. WYAML publishes “Notices of Intent to Perform Reclamation” for each proposed reclamation project in local and state newspapers and on its website, and solicits public comment and requests for public meeting participation. No public meetings on reclamation projects were requested by the public in evaluation year 2011. Prior to awarding a reclamation contract, WYAML conducts a mandatory pre-bid meeting for all potential bidders. The purpose of the meeting is to explain the nature of the reclamation project, provide a site visit for the contractors and clarify any uncertainties a potential bidder may have. At the end of each reclamation project, a

statement “Intent to Make Final Payment” is published in the Casper Star Tribune newspaper before the contract is closed. This allows an opportunity for the public to comment on the acceptability of the reclamation project as completed before final payment is made. If the project involves public facilities, the State Loan and Investment Board provide additional opportunities for public input prior to rendering a final decision on each project.

The WYAML hosted an open house meeting for WYAML personnel and all affected state and federal agencies on Tuesday and Wednesday, September 14-15, 2010. Agencies represented at the meeting included WYAML, Bureau of Land Management, State Historic Preservation Office, the Wyoming Department of Fish and Wildlife and the OSM. The purpose of the meeting was to 1) have introductions of all involved parties to meet one another, 2) general discussion of the AML program, and 3) ways to increase effectiveness between all parties. The WYAML Administrator moderated discussions on 1) how the AML process works, 2) key agency requirements, 4) WYAML inter agency co-ordination, and 5) areas where coordination can be improved and enhanced. General Discussions were also held on the Reclamation Plan, the Sage Grouse/Sagebrush plan, Weed management plans, and Historic/Archeological concerns.

WYAML maintains an excellent web site at <http://deq.state.wy.us/aml/> that includes links to information on AML dangers, a calendar of upcoming projects, current construction bidding, project selection, department contacts, rules and regulations, and professional procurement information. Also included are instructions describing how to report mine hazards.

G. Maintenance of Records

1. Data Management System

WYAML maintains an inventory of all abandoned mines identified within the State of Wyoming. The database is listed on a site by site basis recording all relevant data that may later be entered into AMLIS. The database includes site location, type, description and status such as priority, reclaimed, or certified reclamation complete. All reports of investigation are entered into the database as a PDF file attached to the individual site entry. Hard copies of all electronic files are maintained as both open files and shelf entries. Entries into AMLIS are derived from data in the State inventory.

2. Integration with AMLIS

WYAML generally follows AMLIS guidelines to develop PADs and enter them into the AMLIS data bank. WYAML uses criteria very similar to AMLIS guidelines to prioritize its coal problems but considers additional factors specific to Wyoming such as recreational activities, land uses, and settings. Once entered in AMLIS, the specific PAD is then appended to the ATP request package submitted to the CFO.

OSM has given data entry privilege to WYAML for modifying existing PADs in AMLIS.

This action allows WYAML to correct and eliminate double entries, to modify, delete and add specific entries on individual PADs, and enter new PADs as necessary without OSM intervention on each action. However, all PAD modifications and new entries are subject to approval by the CFO Director. During the 2011 review period, WYAML has made the following modifications to AMLIS:

New coal entries	3
Coal sites moved to funded	33
Coal sites moved to completed	56
 New non-coal entries	 9
Non-coal sites moved to funded	4
Non-coal sites moved to completed	11

During 2010, the AMLIS system was being redesigned and rebuilt resulting in months of down time where entries could not be made, nor data retrieved. Downtime continued until the end of March 2011, when OSM conducted training in AMLIS data entry and approval procedures. This has resulted in difficulties for the WYAML in entering data onto individual PADs as well as difficulties for the OSM reviewer in retrieving and reviewing data entered into AMLIS. Some issues with AMLIS continue up to the time that this report was prepared. Particularly noticeable is that some data records have not migrated from the “legacy AMLIS” to “E-AMLIS”, hence categorical totals are incomplete.

V. Conclusions

OSM has completed its evaluation of topics specified in the Performance Agreement between WYAML and OSM. This evaluation specifically examined five topic areas to evaluate WYAML performance:

- 1) AML Grant Fiscal and Administrative Controls;
- 2) WYAML’s Progress in Reclamation of Outstanding Coal Problems;
- 3) Overall reclamation Success;
- 4) Public Outreach; and,
- 5) Integration with AMLIS.

WYAML receives the largest grant of moneys from OSM for any program in the country. The Wyoming Legislature directly controls the allocation of those funds with a minimum of \$30,000,000 being directed to the WYAML, and the balance being allocated to research and mineral related projects of Legislative choice. In 2011, the Wyoming legislature directed \$50,361,765 to the WYAML for both coal and non-coal site reclamation. WYAML manages its allocation in a fiscally responsible manner with 95.2% of its allocation going to reclamation construction costs and only 3.2% to administrative cost.

WYAML currently lists 416 coal sites of which 281 have been completed, 59 have been funded and 156 remain to be addressed. Although WYAML continues to address non-coal sites in order to complete in-progress projects, WYAML has directed its emphasis to addressing all remaining coal problems. It is anticipated that more coal reclamation projects will be conducted in the future.

WYAML has conducted excellent reclamation at the southwest Wyoming area sites reviewed in this evaluation. All projects completed conform to the treatment plans as developed, and the quality of construction is clearly evident. Reclamation at these sites clearly exceeds expectations as demonstrated in successful natural contour design, high altitude re-vegetation and the quality of project design, management and construction.

WYAML continues to publish project notices and solicit feedback from Wyoming residents. There were no project specific public meetings other than pre-bid meetings for contractors conducted in evaluation year 2011.

There have been great strides to improve the quality and accuracy of data entries in the AMLIS system, with many old entries being corrected and updated, and new coal PADs being entered. Wyoming also maintains a very detailed State inventory of mining properties in both electronic and hard copy open file and shelf formats. We recommend WYAML continue to refine its inventory data and enter coal PADs in AMLIS to accurately show the number, nature and priority of unreclaimed coal problems remaining in the State.

APPENDIX A: State Comments and CFO's Responses to the Draft 2011 Annual Evaluation Summary Report

WYAML comments were made during a conference call between Alan Edwards, Bill Locke, Marcia Murdock of the WYAML and Dale Herbort of CFO on September 8, 2011.

The CFO's responses are marked in italics.

Section II.D. Pg 6. Inter-Mountain Coal Conference should be changed to Inter-State Mining Compact Commission.

The correction was made.

Table 1 lists Wyoming Abandoned Mine Land Reclamation needs and accomplishments. This table is apparently a direct report based on the numbers contained in E-AMLIS, the National AML database maintained by OSMRE. Wyoming believes that E-AMLIS does not contain an accurate list of sites reclaimed and funds expended by the AML program. Wyoming believes that E-AMLIS understates the accomplishments and expenditures of the Wyoming AML program. These problems are believed to be due to data migration between the old AMLIS system and the new E-AMLIS system. Wyoming AML is currently reviewing the data between the databases in an effort to identify data discrepancies.

*The discrepancies have been noted and statements to that effect have been integrated into the narrative at Section IV. G. 2. **Integration with AMLIS.***

Mention should be made of Wyoming's AML award for the Kleenburn Park project.

*A short section **E. Awards** was developed to recognize WYAML receiving the 2011 Abandoned Mine Lands Reclamation Award for the Western Region.*

Section II.C. Abatement Results, 4th paragraph. Sentence should be included to clarify that even though all Priority 1, 2 and 3 coal problems will have been reclaimed, there will still be coal outcrop and coal mine fires to extinguish, maintenance to perform and sudden events such as subsidence to repair.

The concern has been integrated into the narrative.

Corrections to Table 3 were requested, particularly in years 2009 and 2010 to clarify what moneys were spent as AML expenditures and what moneys were spent at Legislative discretion.

The corrections were made.

Section II.D. Progress, 2nd paragraph, line 5. "AML coal reclamation by Fiscal Year 2012" should be changed to "AML Priority 1 and 2 coal reclamation by Federal Fiscal Year 2014."

The correction was made.